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EXAMINER
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2444	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _29 April 2010_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-18_ is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-18_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1. This action is in regards to the response received on 04/29/2010.

Claim 1 has been amended. Claims 1-18 are pending.

2. A request for continued examination under 37 CFR 1.114, including

the fee set forth in 37 CFR 1.17(e), was filed in this application after final

rejection. Since this application is eligible for continued examination under 37

CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the

finality of the previous Office action has been withdrawn pursuant to 37 CFR

1.114. submission filed on 04/29/2010 has been entered.

Response to Arguments

3. Applicant's arguments filed 04/29/2010 have been fully considered but

they are not persuasive.

Point A.   With regards to the Rejection under 35 USC § 103 (a), the

applicants argue that the combination of Lewis, Jain, and Owens fails to render

obvious claims 1-18 because the combination of Lewis, Jain, and Owens fail to

disclose binding a work label switching path (LSP) with a protection LSP in the

process of creating the protection LSP.

As to Point A, the Examiner respectfully disagrees. The combination of

Lewis, Jain, and Owens does disclose binding a work label switching path (LSP)

with a protection LSP in the process of creating the protection LSP. (*See*

Owens, column 11, lines 1-12 for maintaining a binding between outgoing labels

(two LSPs) specifying the working path (work LSP) and the protection/recovery

path (protection LSP). The latter enables the switchover to the recovery path

upon the receipt of a protection switch trigger and see Lewis, paragraph 0041,

lines 1-7 generate (process) the one or messages necessary to create the

return (protection) LSP. The examiner would like to state that Owens teaches

binding two LSPs work LSP and Protection LSP together and Lewis teaches the

process of creating the return LSP. Therefore the combination of Lewis, Jain,

and Owens does disclose binding a work label switching path (LSP) with a

protection LSP in the process of creating the protection LSP.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Lewis (US 2004/0004955 A1), in view of Jain (US

2002/0116669 A1) and Owens et al. (Owens) (US 7,315,510 B1).

4.   With respect to the claim 1, Lewis reference teaches A method for

binding a work label switching path (LSP) with a protection LSP, comprising:

in the process of creating the protection LSP (see *paragraph 0041, lines*

1-7 generate (process) the one or messages necessary to create the return

*(protection) LSP),_a Path Switching Label Switching Router (PSL) transmitting a

first message which comprises information to a Path Merging Label Switching

Router (PML) to request for creating the LSP of the work LSP (*See paragraph*

0007, lines 1-9 sending a first LSP setup request message comprising a first bi-

directional indicator from the first routing device (Path Switching Label Switching

Router (PSL)) to the second routing device (Path Merging Label Switching

Router (PML) and see paragraph 0041, lines 1-7 generate (process) the one or

messages necessary to create the return (protection) LSP)), and returning a

second message which comprises the information (*See paragraph 0007, lines 9-*

17 sending a second LSP setup request message from the second routing

device to the first routing device in response to the first bi-direction indicator);

upon receiving the second message, the PSL router the work LSP with the

LSP according to the information, and transmitting a notification message which

comprises the information to the PML switched router (*See paragraph 0044, lines*

8-14 transit router 108 returns an error notification to the LER);

Lewis fails to explicitly teach binding information to a Path Merging Label

Switching Router (PML) to request for creating the protection LSP of the work

LSP;

However, Jain reference teaches teach the PML router assigning a label

for the protection LSP based on the first message (*See paragraph 0005 lines 1-*

10 The router (PML) then modifies (assign) the packet by exchanging the

outgoing label for the prior label before forwarding the packet along this next hop

and See paragraph 0083, lines 1-8 the protection LSPs allow data to be re-

routed), the PML router the work LSP with the protection LSP according to the

information in the notification message (See paragraph 0007, lines 1-13 A fault

notification is required for each LSP).

Therefore, it would have obvious to a person of ordinary skill in the art at

the time of invention was made to have been combined the teachings of Jain to

utilize the protection LSP feature within the transmitting a first message which

comprises information to a Path Merging Label Switching Router taught by

Lewis. The motivation for this would have been to avoid failed network nodes as

well as failed network links (See paragraph 0083, lines 1-8 the protection LSPs

allow data to be re-routed).

Lewis and Jain fail to explicitly teach returning a second message which

comprises the binding information; upon receiving the second message, the PSL

router binding the work LSP with the protection LSP according to the binding

information, and transmitting a notification message which comprises the binding

information to the PML switched router; <u>and</u> the PML router assigning a label for

the protection LSP based on the first message, the PML router binding the work

LSP with the protection LSP according to the binding information in the

notification message.

However, Owens reference teaches maintaining a binding between

outgoing labels specifying the working path and the protection/recovery path

(See Owens, column 11, lines 1-12 for maintaining a binding between outgoing

labels (two LSPs) specifying the working path (work LSP) and the

protection/recovery path (protection LSP). The latter enables the switchover to

the recovery path upon the receipt of a protection switch trigger) and exchanging

label binding information (*See column 11, lines 12-31 with respect to the binding*

information they exchange).

Therefore, it would have obvious to a person of ordinary skill in the art at

the time of invention was made to have been combined the teachings of Owens

to utilize the binding information they exchange feature within the transmitting a

first message which comprises information to a Path Merging Label Switching

Router taught by Lewis and Jain. The motivation for this would have been to

enables the switchover to the recovery path upon the receipt of a protection

switch trigger (*See column 11, lines 1-11*)

5. With respect to the claim 2, Lewis, Jain and Owens further teach

comprising: before creating the work LSP, designating the PML router and a

protection mode of the work LSPs at the PSL switched router; or, after creating

the work LSP, designating the PML router and the protection mode of the work

LSPs at the PSL switched router (*Jain, See paragraph 0085, lines 1-9 one or*

more protection LSPs is defined and See paragraph 0013, lines 1-7 the particular

router is using to send data, e.g., those resources being used by label-switched

paths (LSPs) set up by that router). The motivation that was utilized in claim 1,

applies equally as well to claim 2.

6. With respect to the claim 3, Lewis, Jain and Owens further teach if the

protection mode for the work LSPs is 1+1 mode, the binding information

comprises the work LSP identifier, LSP type, and the protection mode (Jain, See

paragraph 0106, lines 1-15 the protection provided may be 1:1, 1:n, 1+1, ring, or

fast re-route and See paragraph 0021, lines 14-20 a label-switched path that

uses a resource identified by the corresponding point of failure); if the protection

mode for the work LSPs is 1:1, the binding information comprises the work LSP

identifier, LSP type, the protection mode and selection mode of the return LSP in

the 1:1 protection mode (*Jain, See paragraph 0106, lines 1-15 the protection*

provided may be 1:1, 1:n, 1+1, ring, or fast re-route and See paragraph 0021,

lines 14-20 a label-switched path that uses a resource identified by the

corresponding point of failure). The motivation for this would have been to

provide a higher level of fault tolerance than other 1:n levels. (Jain, See

paragraph 0106, lines 1-15 the protection provided may be 1:1, 1:n, 1+1, ring, or

fast re-route)

7.   With respect to the claim 4, Lewis, Jain and Owens further teach

comprising, after the PML router receives the notification message, if it is

determined that the protection is in the 1:1 mode and it is chosen to create the

return LSP dynamically via signaling (*Jain, See paragraph 0106, lines 1-15 the*

protection provided may be 1:1, 1:n, 1+1, ring, or fast re-route and See

paragraph 0050, lines 1-6 signal integrity verification):

the PML router transmitting to the PSL router a third message of requesting for

creating the return LSP, with the binding information included in the third

message (*Jain, See paragraph 0013, lines 1-7 the particular router is using to*

send data, e.g., those resources being used by label-switched paths (LSPs) set

up by that router and See paragraph 0016, lines 1-8 The label used for a fault

notification may be referred to as a "fault information label" (FIL).);

the PSL router assigning a label for the return LSP according to the third

message, and returning a fourth message which comprises the binding

information (*Jain, See paragraph 0013, lines 1-7 the particular router is using to*

send data, e.g., those resources being used by label-switched paths (LSPs) set

up by that router and See paragraph 0016, lines 1-8 The label used for a fault

notification may be referred to as a "fault information label" (FIL).);

the PML router binding the work LSP and the return LSP based on the binding

information of the fourth message, and transmitting to the PSL router a

notification message which comprises the binding information (Jain, See

paragraph 0013, lines 1-7 the particular router is using to send data, e.g., those

resources being used by label-switched paths (LSPs) set up by that router and

See paragraph 0016, lines 1-8 The notification may include the SRLG that

corresponds to the particular failure that occurred.);

the PSL router binding the work LSP and the return LSP based on the binding

information of the notification message (*Jain, See paragraph 0013, lines 1-7 the*

particular router is using to send data, e.g., those resources being used by label-

switched paths (LSPs) set up by that router and See paragraph 0016, lines 1-8

The notification may include the SRLG that corresponds to the particular failure

that occurred.). The motivation that was utilized in claim 3, applies equally as well

to claim 4.

8.   With respect to the claim 5, Lewis further teach wherein, if Resource

Reservation Protocol (RSVP) is used to create the LSP, the first message and

the third message are path messages in the RSVP, and the second message

and the fourth message are Resv messages in the RSVP, and the notification

message is Reservation Configuration (ResvConf) message in the RSVP (*See*

paragraph 0008, lines 1-9 the first and second LSP setup request messages are

first and second RSVP PATH messages).

      9. With respect to the claim 6, Lewis further teach comprising: extending

a binding object in the RSVP, and extending the Path message, Resv message

and ResvConf message to comprise information of the binding object to

implement the binding of the work LSP and the protection LSP (*See paragraph*

0008, lines 1-9 the first and second LSP setup request messages are first and

second RSVP PATH messages).

      10. With respect to the claim 7, Lewis further teach wherein, if label

distribution protocol (LDP) or constraint route-label distribution protocol (CR-LDP)

is used to create the LSP, the first message and the third message are the Label

Request messages of the LDP or CR-LDP, and the second message and the

fourth message are the Label mapping messages of the LDP or the CR-LDP,

and the notification message is a notification message in the LDP or the CR-

LDP (*See paragraph 0065, lines 1-12 LDP, for example, may be used*).

      11. With respect to the claim 8, Lewis, Jain and Owens further teach

comprising: extending the binding Type Length Value (TLV) in the LDP or the

CR-LDP, and adding the binding TLV to the Label Request message, Label

mapping message and notification message to implement the binding of the work

LSP and the protection LSP (*Jain, See paragraph 0097, lines 1-24 a new type-*

length value (TLV) may be defined). The motivation for this would have been to a

possible fault to be avoided by the protection LSP. (*Jain, See paragraph 0097, lines 1-24 a new type-length value (TLV) may be define*d)

12.   With respect to the claim 9, Lewis, Jain and Owens further teach if the protection mode for the work LSPs is 1+1 mode, the binding information comprises the work LSP identifier, LSP type, and the protection mode (Jain, See paragraph 0106, lines 1-15 the protection provided may be 1:1, 1:n, 1+1, ring, or fast re-route and See paragraph 0021, lines 14-20 a label-switched path that uses a resource identified by the corresponding point of failure); if the protection mode for the work LSPs is 1:1, the binding information comprises the work LSP identifier, LSP type, the protection mode and selection mode of the return LSP in the 1:1 protection mode (*Jain, See paragraph 0106, lines 1-15 the protection provided may be 1:1, 1:n, 1+1, ring, or fast re-route and See paragraph 0021, lines 14-20 a label-switched path that uses a resource identified by the corresponding point of failure*). The motivation that was utilized in claim 3, applies equally as well to claim 9.

13.   With respect to the claim 10, Lewis, Jain and Owens further teach after the PML router receives the notification message, if it is determined that the protection is in the 1:1 mode and it is chosen to create the return LSP dynamically via signaling, further comprising (*Jain, See paragraph 0106, lines 1-15 the protection provided may be 1:1, 1:n, 1+1, ring, or fast re-route and See paragraph 0050, lines 1-6 signal integrity verification*):
the PML router transmitting to the PSL router a third message of requesting for creating the return LSP, with the binding information included in the third

message (*Jain, See paragraph 0013, lines 1-7 the particular router is using to

send data, e.g., those resources being used by label-switched paths (LSPs) set

up by that router and See paragraph 0016, lines 1-8 The label used for a fault

notification may be referred to as a "fault information label" (FIL).*);

the PSL router assigning a label for the return LSP according to the third

message, and returning a fourth message which comprises the binding

information (Jain, See paragraph 0013, lines 1-7 the particular router is using to

send data, e.g., those resources being used by label-switched paths (LSPs) set

up by that router and See paragraph 0016, lines 1-8 The label used for a fault

notification may be referred to as a "fault information label" (FIL).);

the PML router binding the work LSP and the return LSP based on the binding

information of the fourth message, and transmitting to the PSL router a

notification message which comprises the binding information (*Jain, See

paragraph 0013, lines 1-7 the particular router is using to send data, e.g., those

resources being used by label-switched paths (LSPs) set up by that router and

See paragraph 0016, lines 1-8 The notification may include the SRLG that

corresponds to the particular failure that occurred.*);

the PSL router binding the work LSP and the return LSP based on the binding

information of the notification message (*Jain, See paragraph 0013, lines 1-7 the

particular router is using to send data, e.g., those resources being used by label-

switched paths (LSPs) set up by that router and See paragraph 0016, lines 1-8

The notification may include the SRLG that corresponds to the particular failure*

that occurred.). The motivation that was utilized in claim 3, applies equally as well to claim 10.

14.   With respect to the claim 11, Lewis further teach wherein, if Resource Reservation Protocol (RSVP) is used to create the LSP, the first message and the third message are path messages in the RSVP, and the second message and the fourth message are Resv messages in the RSVP, and the notification message is Reservation Configuration (ResvConf) message in the RSVP (*See paragraph 0008, lines 1-9 the first and second LSP setup request messages are first and second RSVP PATH messages*).

15.   With respect to the claim 12, Lewis further teach comprising: extending a binding object in the RSVP, and extending the Path message, Resv message and ResvConf message to comprise information of the binding object to implement the binding of the work LSP and the protection LSP (*See paragraph 0008, lines 1-9 the first and second LSP setup request messages are first and second RSVP PATH messages*).

16.   With respect to the claim 13, Lewis further teach wherein, if the LDP or the CR-LDP is used to create the LSP, the first message and the third message are the Label Request messages of the LDP or CR-LDP, and the second message and the fourth message are the Label mapping messages of the LDP or the CR-LDP, and the notification message is a notification message in the LDP or the CR- LDP (*See paragraph 0065, lines 1-12 LDP, for example, may be used*).

17.   With respect to the claim 14, Lewis, Jain and Owens further teach comprising: extending the binding Type Length Value (TLV) in the LDP or the CR-LDP, and adding the binding TLV to the Label Request message, Label mapping message and notification message to implement the binding of the work LSP and the protection LSP (*Jain, See paragraph 0097, lines 1-24 a new type-length value (TLV) may be defined*). The motivation that was utilized in claim 8, applies equally as well to claim 14.

18.   With respect to the claim 15, Lewis, Jain and Owens further teach wherein data is transmitted via the work LSP and protection LSP simultaneously from PSL to PML, the PML receives the data from the work LSP in normal conditions, if there is a failure in the work LSP, the PML receives data from the protection LSP (Owens, *See column 14, lines 10-12 Upon the establishment of the working and protection paths and See column 3, lines 44-55 This path is known in the art as the working or primary path through the network and See column 4, lines 55-65 In the event of a pathway failure causing downstream data to be lost at a downstream switch, such as by either a switch failure or a link failure,*). The motivation for this would have been to re-route data traffic through the protection path so as to have the data for the endpoint switch no. 7 delivered as quickly as possible to the endpoint at switch no. 7(*See column 4, lines 55-65 In*).

19.   With respect to the claim 16, Lewis, Jain and Owens further teach wherein the binding occurs during creation of the protection LSP (*See Owens,*

column 11, lines 1-12 for maintaining a binding between outgoing labels

specifying the working path and the protection/recovery path (protection LSP).

20. With respect to the claim 17, Lewis, Jain and Owens further teach

wherein at least one node in the protection LSP is not part of the work LSP (*See*

Owens, column 4, lines 17-25 A protection path for the portion of the working

path that runs through switches 2, 3, 4 and 6 is the path designated by links)

21. With respect to the claim 18, Lewis, Jain and Owens further teach

wherein data is transmitted via the work LSP and protection LSP simultaneously

from PSL to PML, the PML receives the data from the work LSP in normal

conditions, if there is a failure in the work LSP, the PML receives data from the

protection LSP (Owens, *See column 14, lines 10-12 Upon the establishment of*

the working and protection paths and See column 3, lines 44-55 This path is

known in the art as the working or primary path through the network and See

column 4, lines 55-65 In the event of a pathway failure causing downstream data

to be lost at a downstream switch, such as by either a switch failure or a link

failure,). The motivation for this would have been to re-route data traffic through

the protection path so as to have the data for the endpoint switch no. 7 delivered

as quickly as possible to the endpoint at switch no. 7(*See column 4, lines 55-65*

In).

Conclusion

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to FARRUKH HUSSAIN whose telephone

number is (571)270-5652. The examiner can normally be reached on Monday-

Thursday, Alt. Friday, 7:30 A.M-5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, William Vaughn can be reached on 571-272-3922. The

fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

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free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

/F. H./
Examiner, Art Unit 2444
05/07/2010

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2444